

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1 and 2 (canceled)

3. (currently amended) A method for identifying a swine that is resistant to intestinal colonization by *E. coli* that are capable of binding to the carbohydrate structures generated by FUT 1 ~~E. coli~~ F18 receptor (ECF18R) in swine, said method comprising:

- (a) determining whether a genetic polymorphism, wherein a nitrogen base at position 307 in the open reading frame of the alpha (1, 2) fucosyltransferase 1 gene (*FUT1*) (SEQ ID NO: 12) of the swine is adenine, or a polymorphism in allelic association linkage disequilibrium with the *FUT1* polymorphism that has only adenine at position 307, is in the swine; and
- (b) inferring that the swine is resistant if the swine only has adenine at position 307 or is homozygous for a polymorphism in allelic association linkage disequilibrium with *FUT1* adenine in position 307.

4. (currently amended) A method for identifying a swine that is resistant to intestinal disorders caused by a microorganism capable of binding to the carbohydrate structures generated by FUT 1 ~~E. coli~~ F18 receptor (ECF18R) in swine, said method comprising:

- (a) determining whether the only nitrogen base at position 307 in the open reading frame of the alpha (1, 2) fucosyltransferase 1 gene (SEQ ID NO: 12) of the swine is adenine; and
- (b) identifying the swine as resistant if the only nitrogen base at position 307 of the open reading frame of *FUT1* is adenine.

5. (currently amended) A method for breeding swine that are resistant to diseases caused by *E. coli* capable of binding to the carbohydrate structures generated by FUT 1 ~~E. coli~~ F18 receptor (ECF18R) in swine, said method comprising:

- (a) selecting for breeding swine that are homozygous for a genetic polymorphism in the open reading frame of the alpha (1, 2) fucosyltransferase 1 gene, wherein a nitrogen base at position 307 in the open reading frame of the alpha (1, 2) fucosyltransferase 1 gene

(SEQ ID NO: 12) of the swine is adenine, or for a polymorphism in allelic association  
~~linkage disequilibrium~~ with the FUT1 polymorphism that has adenine at position 307;  
and

(b) breeding the selected swine.

6. (previously presented) The method of claim 5 wherein the *E. coli* is strain F18.